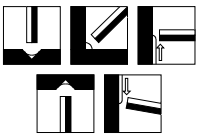


|  |   |      |                   |     |            |      |   |     |        |      |      |
|--|---|------|-------------------|-----|------------|------|---|-----|--------|------|------|
| <b>ERP</b>                               | <b>RUTILE BASED FLUX COATED ELECTRODE<br/>WITH BALANCED AMPHOTERIC &amp; ACID MINERALS<br/>FOR WELDING THIN &amp; MODERATE THICKNESS STEEL<br/>PLATE WHEN WELD APPEARANCE IS A PRIME<br/>CONSIDERATION</b>  |      |                   |     |            |      | <b>DATA SHEET<br/>NO.</b><br><b>15</b>  |     |        |      |      |
| SPECIFICATION                            | AWS A5.1  |      | BS EN ISO 2560-B  |     | JIS Z 3211 |      |   |     |        |      |      |
| CLASSIFICATION                           | E6013   |      | E4313             |     | D4313      |      |   |     |        |      |      |
| PRODUCT DESCRIPTION                      | The rutile based flux coating has an inverse ratio of chemically basic oxides to other types which produces a fluid slag which lends itself to contact welding using a wide range of travel speeds. The flux together with the relevant alloying elements is extruded on to a mild steel wire with a blend of silicates that ensures coating strength and stability.  |      |                   |     |            |      |   |     |        |      |      |
| WELDING FEATURES OF THE ELECTRODE        | Soft, stable arc on both AC and DC. Absolute minimum spatter. Bright evenly rippled seams, the profile of which produces concave fillet welds. Minimum penetration and variable travel speeds when contact welding make ideal for thin plate and sheet metal work. The weld seams need minimal mechanical dressing and are aesthetically pleasing in appearance.  |      |                   |     |            |      |   |     |        |      |      |
| APPLICATIONS AND MATERIALS TO BE WELDED  | <p>All position welding of sheet metal work and thinner plates (except vertical down) when weld appearance is of prime importance in the following and similar materials:</p> <p>Mild and medium carbon-manganese steels up to 15mm thick with a UTS of 500 N/mm<sup>2</sup> max. Typical grades :</p> <p>BS 1449 plate and sheet, BS 4360 grades 43A and 43C, Lloyds A &amp; D ship steel BS 4360 grade 50B Lloyds grades AH and DH, BS 3059 and BS 3601 grade 320-410 API 5L A-B and X42.</p> |      |                   |     |            |      |   |     |        |      |      |
| WELD METAL ANALYSIS COMPOSITION % BY Wt. |   | C    | Mn                | Si  | S          | P    | Cr  | Ni  | Mo     | V    | Fe   |
|  | MIN   | -    | -                 | -   | -          | -    | -   | -   | -      | -    |      |
|  | MAX   | 0.2  | 1.2               | 1.0 | -          | -    | 0.2   | 0.3 | 0.3    | 0.08 |      |
|  | TYPICAL   | 0.06 | 0.5               | 0.4 | 0.02       | 0.02 | 0.04  | 0.1 | 0.01   | 0.06 | Bal. |
| WELD METAL PROPERTIES (ALL WELD METAL)   | PROPERTY  |      | UNITS             |     | MINIMUM    |      | TYPICAL   |     | OTHERS |      |      |
|  | Tensile strength  |      | N/mm <sup>2</sup> |     | 430        |      | 560   |     |        |      |      |
|  | 0.2% Proof stress   |      | N/mm <sup>2</sup> |     | 330        |      | 450   |     |        |      |      |
|  | Elongation on 4d  |      | %                 |     | 17         |      | 28  |     |        |      |      |
|  | Reduction of Area (RA)  |      | %                 |     | -          |      | 70  |     |        |      |      |
|  | Impact energy 0°C   |      | J                 |     | -          |      | 60  |     |        |      |      |
| WELDING AMPERAGE AC or DC                | Ø (mm)  | 1.6  | 2.0               | 2.6 | 3.2        | 4.0  |  |     |        |      |      |
|  | MIN   | 20   | 40                | 50  | 80         | 130  |   |     |        |      |      |
|  | MAX   | 40   | 60                | 90  | 125        | 170  |   |     |        |      |      |
| OTHER DATA                               | Electrodes that have become damp should be re-dried at 110°C for 1 hour.  |      |                   |     |            |      |   |     |        |      |      |
| RELATED PRODUCTS                         | Please contact our Technical Department for detail.   |      |                   |     |            |      |   |     |        |      |      |